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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/489,250	01/21/2000	Roger W. Phillips	13676.152	5610

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WORKMAN NYDEGGER & SEELEY
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UT 84111

EXAMINER

CHANG, AUDREY Y

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 02/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/489,250

Applicant(s)

PHILLIPS ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14, 66-68, 70, 76, 77 and 79-81 is/are pending in the application.
- 4a) Of the above claim(s) 9-13, 15-46, 49-65, 69 and 71-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14, 66-68, 70, 76, 77 and 79-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on December 17, 2001, which has been entered as paper number 13.
- By this amendment, the applicant has amended claims 3 and 5, has canceled **non-elected** claims 47-48, 54-64 and 78 and has newly added claims 79-81.
- Claims 1-8, 14, 66-68, 70, 76-77 and 79-81 remain pending in this application.
- The rejection to claims 5 under 35 USC 112, second paragraph, set forth in the previous Office Action dated August 15, 2001 is withdrawn in response to applicant's amendment.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 4-5 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

The specification fails to teach how could a "refraction pattern", a "corner cube reflector" or a "moiré pattern" is capable of providing "optical interference pattern". These elements in general will not be able to cause incident light to interfere with each other.

The specification also fails to teach how could "a hologram" be capable of changing imagery when viewing angle changed. A hologram, which is recorded with one set of object and reference beams, can only be viewed in one orientation. When the viewing angle changed the hologram image will not be

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able to be viewed. In order to have changed imagery in accordance with the change of the viewing angles a composite of multiple of holograms each can be viewed at different angles must be provided.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The alternative expression recited in claim 4 is indefinite since the elements recited within the group are not equivalent to each other. It is known in the art that a "refraction pattern", a "corner cube reflector" or a "moiré pattern" does not possess an interference pattern and they are different from a hologram or a diffraction grating. This makes the scope of the claim unclear.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 14, and newly added claim 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Uyama et al (PN. 5,700,550).

Uyama et al teaches a transparent hologram seal that is comprised of a *base member* (2), serves as the light transmissive *substrate*, a *hologram forming layer* (4) having *hologram* formed within on a surface of the base member and a *transparent evaporated layer* (10), serves as the *color shifting optical*

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coating, such that the color of visible light changed according to the viewing angle when it is transmitted or reflected therefrom, (please see Figures 1-2, columns 5-6). Uyama et al teaches that by choosing desired material the base member and the hologram forming layer may be combined into a single layer, (please see column 5, lines 59-61). It is known in the art that a hologram essentially contains an interference pattern. Uyama et al further teaches that the hologram seal comprises an *adhesive layer* (16) on the evaporated layer, (please see Figure 9A).

This reference has met all the limitations of the claims with the exception that it does not teach explicitly that the transparent evaporated layer is formed at an opposite surface of the base member. However since the specification fails to teach having this particular arrangement would overcome any problem in the prior art and since by having the layer at one side or the other of the base member will not change the color-shifting function to the hologram seal such modification is therefore considered to be obvious matter of design choices to one skilled in the art.

With regard to claims 2-3, Uyama et al teaches that the base member may be a *polyester* film, which is *plastic* material. Although this reference does not teach explicitly that the base member may also be made of other plastic materials as claimed, however since these materials are all well known plastic materials in the art for making transparent substrate to replace the polyester film by other plastic materials for making the base member would have been obvious to one skilled in the art. For it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With regard to claims 5-6 and 79, Uyama et al teaches the hologram forming layer may include a hologram of a general type but it does not teach explicitly that it is the types claimed. However composite holograms that has different viewing images as viewing angle changed or pixilated holograms that generate a composite holographic image are all very well known designs in the art. Such modification would have been obvious matter of design choice to one skilled in the art. Uyama et al also does not

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teach explicitly that the fringes size of the hologram is between 0.1 to 10 μ m, however such feature is either inherently met or an obvious modification to one skilled in the art since the typical size of interference fringes for a volume hologram is about 1 μ m.

7. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Uyama et al as applied to claim 1 above, and further in view of the patent issued to Berning et al (PN. 4,930,866).

The transparent hologram seal having color shifting transparent evaporated layer for providing color shifting taught by Uyama et al as described for claim 1 has met all the limitations of the claims. Uyama et al teaches that the color shifting evaporated layer (10) comprises a multilayer interference film structure with dielectric layers, (please see Figure 1), but it does not teach explicitly that it contains an absorber layer. Berning et al in the same field of endeavor teaches a color shifting multilayer interference coating that is comprised of a chromium layer (16, Figure 1) which is a known absorber layer, a magnesium fluoride layer (17) which is known dielectric layer and a aluminum layer (18) which is a known reflector layer, (please see Figure 1, column 4). It would then have been obvious to one skilled in the art to apply the teachings of Berning et al to modify the transparent evaporated layer of Uyama et al accordingly for the benefit of providing a color shifting layer with a desired of color shifting properties.

8. Claim 80 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Uyama et al in view of the patent issued to Berning et al (PN. 4,930,866).

Uyama et al teaches a transparent hologram seal having color shifting transparent evaporated layer for providing color shifting taught with details described for claim 1 has met all the limitations of the claims. Uyama et al teaches that the color shifting evaporated layer (10) comprises a multilayer interference film structure with dielectric layers, (please see Figure 1), but it does not teach explicitly that

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it contains an absorber layer. Berning et al in the same field of endeavor teaches a color shifting multilayer interference coating that is comprised of a chromium layer (16, Figure 1) which is a known absorber layer, a magnesium fluoride layer (17) which is known dielectric layer and a aluminum layer (18) which is a known reflector layer, (please see Figure 1, column 4). It would then have been obvious to one skilled in the art to apply the teachings of Berning et al to modify the transparent evaporated layer of Uyama et al accordingly for the benefit of providing a color shifting layer with a desired of color shifting properties.

9. Claims 66-68, 70, 76-77 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent Berning et al (PN. 4,930,866) in view of the patent issued to Uyama et al (PN. 5,700,550).

Berning et al teaches *a thin film optically variable article having color shifting property* in accordance with the change of the viewing angle wherein the article has a *structure* that is capable of being transferred to an object via *hot die stamp transfer process*. The hot die stamp structure comprises a *carrier film* (21), a *release layer* (24), a substantially transparent *substrate layer* (13), an *interference coating* (14) that serves as the *color shifting optical coating* and an *adhesive* (26), (please see Figure 1 and columns 3-4). The interference coating has color shifting property when viewed with different viewing angles.

This reference has met all the limitations of the claims with the exception that it does not teach explicitly that the substrate element has an *interference pattern* formed upon it. Uyama et al in the same field of endeavor teaches a transparent hologram seal that has color shifting property when viewed with different angle wherein the substrate has a *hologram-forming layer* for forming a hologram upon one of the surface, (please see Figure 1). It would have been obvious to one skilled in the art to apply the teachings of Uyama et al to modify the thin film optically variable article to include a hologram within the

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substrate for the benefit of adding hologram image to the article for adding more authentic feature to the article.

With regard to claims 67 and 68, Berning et al teaches that the carrier film is made of polymer film such as PET, which is one type of plastic material and the release layer is made of waxes, (please see column 3, lines 54-57 and lines 69).

With regard to claim 70, Berning et al teaches that the color-shifting interference coating comprises a *chromium layer* (16) which is a known *absorber* in the art, a *magnesium fluoride layer* (17) which is a known *dielectric layer* and an *aluminum layer* (18) which is a known *reflector layer*, (please see Figure 1 and column 4).

With regard to claims 76 and 77, Berning et al teaches that the adhesive may be *thermally* activated, (please see column 6, line 8). Uyama et al teaches the adhesive may be *acrylic* series adhesive agent, (please column 6, lines 48-54). Although these references do not teach explicitly that the adhesive may also be UV activated adhesive however since this type of adhesive agent is quite well known in the art such modification would have been obvious matter of design choice to one skilled in the art since there is not criticality of using the type of adhesive over the prior art agent.

Double Patenting

10. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefore ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

11. Applicant is advised that should claims 6, 8, and 70 be found allowable, claims 79, 80 and 81 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an

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application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Response to Arguments

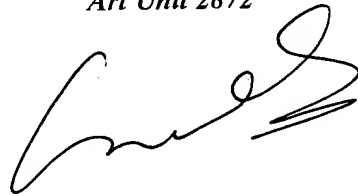
12. Applicant's arguments with respect to claims 1-8, 14, 66-68, 76-77, and 79-81 have been considered but are moot in view of the new ground(s) of rejection.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*Audrey Y. Chang
Primary Examiner
Art Unit 2872*



A. Chang, Ph.D.
February 15, 2002